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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,713

07/06/2004

Johannes J. Meerman

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08/28/2007

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ALEXANDRIA, VA 22320

EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT

PAPER NUMBER

1732

MAIL DATE

DELIVERY MODE

08/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/500,713	<b>Applicant(s)</b> MEERMAN ET AL.	
	<b>Examiner</b> Jeff Wollschlager	<b>Art Unit</b> 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 11, 2007 has been entered.

### ***Response to Amendment***

Applicant's amendment to the claims filed May 11, 2007 has been entered. Claims 1 and 2 are currently amended. Claims 1-7 are pending and under examination.

### ***Drawings***

The amendment to the drawings filed April 30, 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Figure 2 has been modified to show the plates and the slot at the bottom of the coagulation bath. This objection may be overcome by pointing to the location in the original disclosure where support for this amendment may be found. Otherwise, applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation requiring that the projection of the slot be limited to a vertical projection of the slot does not appear to be supported by the instant disclosure.

This rejection can be overcome by pointing to the line(s) in the instant disclosure where support for this new limitation may be found. The examiner notes that the citation to the original disclosure provided in the remarks filed May 11, 2007 traversing this rejection provides support for "projection", but does not provide support for a "vertical projection".

The examiner suggests applicant provide clear and definitive dimensional relationships between the recited components, even quantitative dimensions, to overcome the rejection regarding the terms "projection" and "vertical projection" in an effort to advance prosecution.

Further, regarding claim 1, the limitation requiring the slot or diaphragm be positioned at the bottom of the coagulation bath, as shown in replacement Figure 2, does not appear to be supported by the original disclosure.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation requiring the "vertical projection" of the slot have "about" the same size and shape as the "vertical projection" of the spinning field is unclear as to its limiting effect.

Additionally, claim 7 recites the "vertical projection" has a greater length and is narrower in width than the vertical projection of the spinning field. It is unclear how the projection of the slot can be about the same size and shape as the projection of the spinning field while the projection is also longer and narrower.

The examiner suggests applicant provide clear and definitive dimensional relationships between the recited components, even quantitative dimensions, to overcome the rejection regarding the terms "projection" and "vertical projection" in an effort to advance prosecution.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meerman et al. (U.S. Patent 5,945,054; issued August 31, 1999) in view of Roberts (U.S. Patent 4,193,962; issued March 18, 1980).

Regarding claims 1 and 2, Meerman et al. teach a method and a device for manufacturing filaments from an optically anisotropic spinning solution comprising extruding the spinning solution through a spinneret comprising a spinning field with a plurality of spinning orifices into a coagulation bath through a slot, wherein the edges of the slot are formed by plates with upper sides and lower sides, wherein the upper sides of the plates have the shortest distance to the spinning field, wherein a projection of the slot intrinsically is about the same size as a projection of the spinning field, and wherein a plane of an upper side of one plate has a shorter distance to the center of the spinning field than a plane of an upper side of the other of the plate (Abstract; col. 3, lines 13-18; col. 5, lines 3-9; claim 9). Meerman et al. do not teach that a line through the center of the spinning field and perpendicular to the upper sides of the plates is located at a distance (d) from a parallel line through the center of the slot, wherein the line through the center of the spinning field has a smaller distance to the edge of the other of the plates than to an edge of the one of the plates.

However, Roberts teaches an analogous method and device for spinning wherein for the purpose of reducing vortexing, fused filaments, and spin breaks, he provides an upward shift in the guides/plates so that adjacent edges of adjacent openings are at different levels, like Meerman et al., and further provides a lateral shift of the guides/plates such that a line through the center of the spinning field and perpendicular to the upper sides of the plates is located at a distance (d) from a parallel line through the center of the slot, wherein the line through center of

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the slot has a smaller distance to the edge of the other of the plates than to an edge of the one of the plates (Figure 1; Figure 2 and 4, elements (18, 19, 20, 21, and 22); Abstract; col. 4, lines 5-7; col. 5, lines 1-4 and 30-44).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to combine the teaching of Meerman et al. and Roberts for the purpose, as taught by both Meerman et al. (col. 3, lines 7-17) and Roberts (col. 1, lines 17-32), to reduce vortexing, fused filaments and spin breaks. It is further noted, regarding claim 1, that to the extent the limitation is supported in the original disclosure, under a broad reasonable interpretation, the combination teaches and suggests that the slot is positioned at the "bottom" of the bath.

As to claims 3-6, Meerman et al. exemplify a coagulation bath having a depth of 10 mm and openings/slots of 2 mm x 15 mm (col. 5, lines 3-7). Meerman et al. do not explicitly teach the claimed dimensions. However, it is noted that based on the size of the equipment employed by Meerman et al. and Roberts the dimensions implied by Meerman et al. and Roberts, are implicitly within the claimed ranges.

Further, it is noted that the thickness of the plates and the dimension of the distance (d) would impact the required size of the bath, the physical properties of the spun product and the spinning rate. Further, the thickness of the plates would impact the cost and weight of the plates and the amount of coagulating/quenching fluid to which the spun solution is exposed. As such, the thickness of the plates and the dimension of the distance (d) are result effective variables that would have been readily optimized as is routinely practiced in the art.

As to claim 7, the vertical projection of the slots have a greater length than the projection of the spinning field and are somewhat narrower in width (Figure 2 and Figure 4).

***Response to Arguments***

Applicant's arguments filed May 11, 2007 have been fully considered, but they are not persuasive.

Applicant's arguments appear to be on the following grounds:

1. There is no motivation to combine Meerman et al. and Roberts because they employ different spinning techniques.

2. In Roberts, the material is guided from bar 18, via bars 19-22, to the outlet 44. The yarn is thus not guided through the holes between the bars, but over the bars to outlet aperture 44.

3. Meerman et al. do not teach the vertical projection of the slots has about the same size and shape as the vertical projection of the spinning field.

Applicant's arguments are not persuasive for the following reasons:

1. Meerman et al. and Roberts are directed to methods of spinning filaments and both are interested in reducing vortexing, fused filaments, and spin breaks as indicated in the rejection above. As such, they are analogous methods and one having ordinary skill would have been motivated to combine their teachings since they deal with the same problem solving area.

2. The examiner has a different interpretation of the teachings of Roberts. For example, the examiner points to Figure 2, element (23) and notes that the yarn guides (23) are not aligned with each other but are staggered. As such, it is the examiner's position that the filaments are fed through the holes in the bars to be guided through the guides (23) and then to come through the aperture (44) in alignment. The examiner further notes that Roberts discloses that the "filaments are arranged" (col. 2 line 35) and that the partitions are moveable to "facilitate separation of the filaments at the commencement of spinning" (col. 2, lines 49-52) and that



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"each bundle of filaments passes around the appropriate guide (23), after which the bundles are withdrawn from said portion through the outlet aperture (44)" (col. 4, lines 59-67). The examiner further notes that Roberts discloses, "enabling the operator to separate the filaments into their correct bundles and locate these around the appropriate guides (23)" (col. 5, lines 38-41) and that the filaments "pass around the yarn guides and then upwards" (Abstract, emphasis added). As such, the examiner maintains the current interpretation of the Roberts reference.

3. The examiner notes that the limitation is open to a broad reasonable interpretation. It is noted that a vertical projection of an item is not positively indicative of its size and shape and that the projection can be made to look larger or smaller by various means. Furthermore, the limitation only requires that the vertical projection have "about" the same size and shape. As such, it is the examiner's position that Meerman et al. and Roberts et al. meet the claim limitation.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeff Wollschlager  
Examiner  
Art Unit 1732

August 23, 2007



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SUPERVISORY PATENT EXAMINER